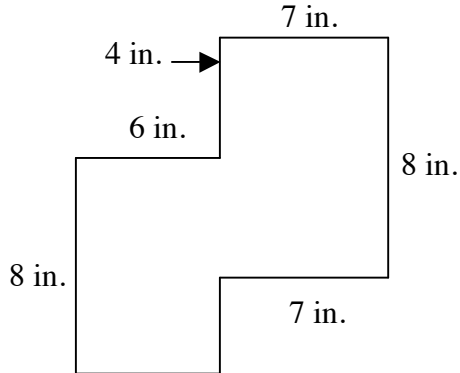


**For each question, you need to find the answer and show your work. Each problem is worth 3 points: one for the correct answer and two for showing your work. For some problems, you may just need to write out how you know you have the correct answer.**

1. Find the perimeter of the figure.



2. To the nearest inch, how far does a bicycle wheel with a radius of 15 in. travel in one turn?

3. A circular arena is 300 meters across its widest part. What is the circumference of the arena to the nearest meter?

4. The circumference of a circle is 18 units. What is its diameter in terms of  $\pi$ ?

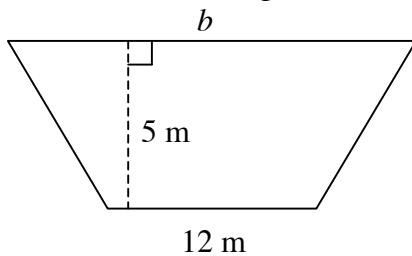
5. The length of each side of a square is 8 cm. If each side is multiplied by 4, what is the perimeter of the new figure?

6. A rectangle measures 10 m by 7 m. If each side is tripled, what is the perimeter of the new figure?

7. A rectangular dog run is 25 ft long by 12 ft wide. If only the length is doubled, how many times greater is the area?

8. A semicircular mat has a diameter of 18 feet. What is the area of the semicircle?

9. If the area of this figure is  $75 \text{ m}^2$ , what is the length of side  $b$ ?



10. Using the figure from problem 9, if the height is doubled, what will be the effect on the area of the figure?

**Open-Ended Question: Answer the following question on a separate piece of paper. Make sure as you answer the open-ended question that you show your work AND explain how you know you are doing the correct work. YOU MUST EXPLAIN WHAT YOU ARE DOING!!!**

A triangle has an area of  $24 \text{ ft}^2$ .

A. What is one possible combination of the base and height of this triangle?

B. If the base of the triangle is doubled, but the altitude (height) is unchanged, what is the new area?